REMARKS

The Office Action dated July 28, 2010 has been reviewed and carefully considered. Claims 15 and 17 have been amended herein. Claims 1 and 4-20 remain pending, the independent claims being claims 15 and 17. Reconsideration of the above-identified application, as amended and in view of the following remarks, is respectfully requested.

Claims 15, 17 and 18 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the claim language "selecting the dimmed brightness level in dependence on … a number of occurrences … above the dimmed brightness level" is deemed an "inappropriate recursive format" in Paragraph 3 of the Office Action. In essence, the examiner is saying you cannot count the number of occurrences unless the dimmed brightness level is known.

However, this method of setting a threshold is well-known. One may, for example, set various "temporary" thresholds perform the resulting counts, and then set a "permanent" threshold at the threshold value which yields a count that is optimum based on some criteria. In particular, the application specifically addresses use of minimizing an error function (e.g. claims 19 and 20). Use of such error functions are well-known in the art as being just one example of determining a threshold value by analyzing results obtained by varying threshold values. In particular, the threshold is not "known" as the analysis is performed. Accordingly, applicants submit that the language of claims 15, 17

and 18 are not indefinite and respectfully request that the rejections under 35 U.S.C. §112, second paragraph, be removed.

Claims 1, 10, 11 and 14-18 stand rejected under 35 U.S.C. §102(b) as being anticipated by Park, U.S. Pat. Publ. No. 2002/0130830 (hereinafter, "Park"). Claims 4 and 19 and 20 stand rejected under 35 USC §103(a) as being unpatentable over Park in view of Nitta et al., U.S. Pat. Publ. No. 2002/0027551 (hereinafter, "Nitta"). Claims 12 and 13 stand rejected under 35 USC 103(a) as being unpatentable over Park in view of Usul et al., EP 0513551 (hereinafter "Usul").

Applicants respectfully disagree with, and explicitly traverse, the Examiner's reason for rejecting the claims.

As an initial matter, in the previous amendment filed May 19, 2010, applicants amended various claims attempting to clarify the meaning of the claims. One such amendment was the changing of the term "and/or" which appeared in claims 15 and 17 (and which had been added by applicants' previous, November 18, 2009, amendment). In particular, this term was changed to "or." An inclusive "or" was intended, as the resulting language of the claim was felt to clearly state that the method of claim 15 and circuit of claim 17 would be capable of performing both designated items "i" and "ii."

The Office Action (at page 5, 1st Paragraph) rejected claims 15 and 17 by citing Park's statement: "where the backlight brightness is adjusted (dimmed) depending on a number of grey levels below the predetermined level." That is, the rejection addressed

only the "ii" phrase of claims 15 and 17. Applicants have amended circuitry claim 17 to clearly state that the circuitry is capable of performing both "i" and "ii." As Park fails to address the "ii" feature, applicants submit that for this reason alone, claim 17 is patentable over the Park reference.

Applicants have also amended method claim 15 to return to the "and/or" term which was present in the application as of their November 18, 2009 amendment. Accordingly, applicants submit that this claim is patentable over Park for the same reasons.

In light of the above-described clarifying amendments to the claims, Applicants wish to reassert arguments previously presented. In particular, Applicants submit that Park discloses in paragraph [0002] an LCD with an adaptive luminance intensifying function for modifying the luminance of a back light according to images provided. According to paragraph [0031] – [0035], the data determiner checks a gray level of the input R image data. A first counter counts the number of high gray level R data and a second counter counts the number of low gray level R data. If the number of high gray levels is higher than the number of low gray levels, a high driving voltage is supplied to the backlight inverter. If the number of high gray levels is lower that the number of low gray levers, a normal driving voltage is supplied to the backlight inverter.

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In paragraph [0036] Park discloses that low gray data is converted into lower gray data if the high ("normal" is erroneously disclosed) driving voltage is supplied so as to compensate of the increase of the backlight.

It has to be noted that Park counts the number of high gray levels and the number of low gray levels. While both high and low are not explicitly defined, it is clearly not disclosed that these levels depend on the selected luminance of the backlight. The backlight is switched between normal and high luminance dependent on which number of the gray levels is the highest.

Claim 15, as amended, recites:

15. A method of adjusting a light source of a display device, the display device comprising a display panel having display pixels for modulating light originating from the light source; and processing circuitry coupled to the display panel and the light source, the processing circuitry having an input for receiving an input signal representing gray levels of pixels of an image to be displayed on the display panel, the method comprising:
-       selecting a dimmed brightness level of the light source in dependence on the gray levels of the image pixels, the selecting step comprising:
            selecting the dimmed brightness level in dependence on: (i) a
            number of occurrences of a gray level corresponding to a brightness level
            of display pixels above the dimmed brightness level, and/or (ii) a number
            of occurrences of a gray level corresponding to a brightness level of
            display pixels below a predetermined brightness level being a fixed or
            adjustable level determined in dependence on the dimmed brightness
            level, and

-    adapting the input signal in dependence on the dimmed brightness level.

The "first part" of the "and/or" construction above defines a dimming of the backlight to a particular brightness. This particular brightness is called the dimmed brightness level and is selected in dependence on a number of gray levels above the dimmed brightness. This clearly differs from the teachings of Park wherein numbers of high and low gray data are compared and the dimmed brightness is not used.

The second part of the "and/or" construction of claim 15 defines that the dimmed brightness level is selected in dependence on the number of gray levels below a fixed or adjustable level determined in dependence on the number of gray levels below a fixed or adjustable level determined in dependence on the dimmed brightness level. This feature of claim 15 is also patentable over Park because Park does not disclose that the low or high gray level depends on the dimmed brightness level of the backlight.

A claim is anticipated only if each and every element recited therein is expressly or inherently described in a single prior art reference. Park cannot be said to anticipate the present invention, because Park fails to disclose each and every element recited. As shown, Park fails to disclose various limitations recited in claim 15. Independent claim 17 contains features similar to those of claim 15 and is deemed patentable for at least the same reasons.

With regard to claims 1, 4-14 and 16 and 18-20, these claims ultimately depend from one of the independent claims, which have been shown to be not anticipated and allowable in view of the cited references. Further, applicants submit that the additional references of Nitta and Usul fail to cure the infirmities of Park in that neither reference teaches or suggests determining the number of occurrences as recited in either independent claim 15 or 17. Accordingly, claims 1, 4-14 and 16 and 18-20 are also allowable by virtue of their dependence from an allowable base claim.

Applicants note with appreciation the indication that Claims 5-9 would be allowable if rewritten so as not to depend from a rejected claim, and with no change in scope. These claims have not been so rewritten because, for the reasons given above, their base claim is believed to be allowable.

In addition, Paragraph 9 of the Office Action acknowledges that Park fails to teach "error optimization with regards to the upper and/or lower gray levels." While the examiner was referencing claim 5 (and claims 6-9 which depend directly or indirectly from claim 5) in making this statement, applicants submit that this basis for allowance is also found in claims 20 and 19 (and claims 4 and 11 which depend directly from claim 19) where the feature "minimizing an error function" is recited in each. Accordingly, dependent claims 4-6, 9, 11, 19 and 20 are also allowable by virtue of having a feature that is acknowledged by the examiner as being novel over the cited prior art.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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